



## CMF / CRF Details

CMF ID: 4177

**Changing left turn phasing from protected-permissive to flashing yellow arrow (FYA)**

**Description:** CMFs are calculated the intersection level and not the treated approach(es) level.

**Prior Condition:** All treated approaches had protected-permissive left turn

**Category:** Intersection traffic control

**Study:** [\*Evaluation of Safety Strategies at Signalized Intersections, Srinivasan, et al., 2011\*](#)

**Star Quality Rating:**



[\[View score details\]](#)

### Crash Modification Factor (CMF)

**Value:** 0.806

**Adjusted Standard Error:**

**Unadjusted Standard Error:**

0.146

Crash Reduction Factor (CRF)	
Value:	19.4 <i>(This value indicates a <b>decrease</b> in crashes)</i>
Adjusted Standard Error:	
Unadjusted Standard Error:	14.6

Applicability	
Crash Type:	Left turn
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	
Area Type:	Urban
Traffic Volume:	
Time of Day:	Not specified
<i><b>If countermeasure is intersection-based</b></i>	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Signalized

<b>Major Road Traffic Volume:</b>	8260 to 43000 Annual Average Daily Traffic (AADT)
<b>Minor Road Traffic Volume:</b>	600 to 13745 Annual Average Daily Traffic (AADT)

Development Details	
<b>Date Range of Data Used:</b>	
<b>Municipality:</b>	
<b>State:</b>	NC, OR, WA
<b>Country:</b>	USA
<b>Type of Methodology Used:</b>	Before/after using empirical Bayes or full Bayes
<b>Sample Size Used:</b>	Crashes
<b>Before Sample Size Used:</b>	134 Crashes
<b>After Sample Size Used:</b>	47 Crashes

Other Details	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	09-01-2012
<b>Comments:</b>	

---

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

*The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.*